

LED LINE SMD GEN. 4 L14/28/56/70/75/ 112 W2

700 lm, 1400 lm, 2100 lm



LED LINE SMD GEN. 4
L14/28/56/70/75/112 W2
– 700 lm, 1400 lm, 2100 lm

WU-M-574-S2/575-S2/576-S2

WU-M-577-S2/578-S2/579-S2

WU-M-580-S2/581-S2/582-S2

WU-M-583-S2/584-S2/585-S2

WU-M-586-S2/587-S2/588-S2

WU-M-589-S2/590-S2/591-S2

Typical Applications

Built-in luminaires/general illumination

- Office lighting
- Retail, corridor and shelf lighting
- T5/T8 replacement as built-in module
- Furniture lighting
- Backlighting for advertising

**LED Line SMD Gen. 4 –
L14/28/56/70/75/112 W2**

■ **LONG SERVICE LIFE TIME: 54,000 H (L80, B10)**

■ **HIGHLY EFFICIENT: UP TO 204 LM/W
AT T_p = 50 °C**

■ **6 LENGTHS AVAILABLE:
140 / 280 / 560 / 700 / 750 / 1120 MM**

■ **3 DIFFERENT LUMEN PACKAGES**

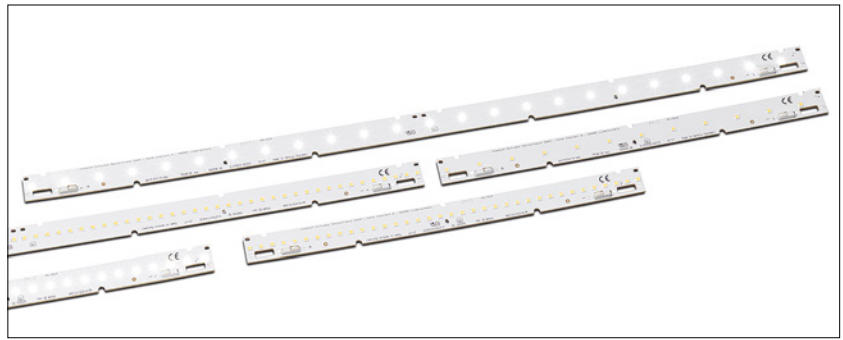
■ **ZHAGA-COMPLIANT DIMENSIONS**



LED Line SMD Gen. 4 – L14/28/56/70/75/ 112 W2

Technical Notes

- LED built-in module for integration into luminaires
- Dimensions
WU-M-580-S2/581-S2/582-S2: 140x20 mm
WU-M-574-S2/575-S2/576-S2: 280x20 mm
WU-M-577-S2/578-S2/579-S2: 560x20 mm
WU-M-586-S2/587-S2/588-S2: 700x20 mm
WU-M-589-S2/590-S2/591-S2: 750x20 mm
WU-M-583-S2/584-S2/585-S2: 1120x20 mm
- Driving current: 150 mA / 250 mA / 350 mA / 500 mA / 700 mA
- On-board push-in terminals, optional on top or bottom
- Beam angle: 120°



Electrical Characteristics

at $t_p = 50^\circ\text{C}$

Type	No. of SMDs	Typ. voltage DC					Temperature coefficient mV/K	Typ. power consumption				
		150 mA V	250 mA V	350 mA V	500 mA V	700 mA V		150 mA W	250 mA W	350 mA W	500 mA W	700 mA W
LED Line SMD Gen. 4 – L14 W2												
WU-M-580-S2	6	5.4	5.5	5.6	5.8	6.1	-2.1	0.8	1.4	2.0	2.9	4.3
WU-M-581-S2	12	10.7	11.0	11.3	11.7	12.1	-4.3	1.6	2.8	4.0	5.9	8.5
WU-M-582-S2	18	16.1	16.6	16.9	17.5	18.2	-8.6	2.4	4.2	5.9	8.8	12.7
LED Line SMD Gen. 4 – L28 W2												
WU-M-574-S2	12	10.8	11.0	11.2	11.6	12.2	-4.3	1.6	2.8	3.9	5.8	8.5
WU-M-575-S2	24	21.4	22.0	22.6	23.4	24.2	-8.6	3.2	5.5	7.9	11.7	16.9
WU-M-576-S2	36	32.2	33.2	33.8	35.0	36.4	-17.1	4.8	8.3	11.8	17.5	25.5
LED Line SMD Gen. 4 – L56 W2												
WU-M-577-S2	24	21.6	22.0	22.4	23.2	24.4	-8.9	3.2	5.5	7.8	11.6	17.1
WU-M-578-S2	48	42.8	44.0	45.2	46.8	48.4	-17.8	6.4	11.0	15.8	23.4	33.9
WU-M-579-S2	72	64.4	66.4	67.6	70.0	72.8	-26.7	9.7	16.6	23.7	35.0	51.0
LED Line SMD Gen. 4 – L70 W2												
WU-M-586-S2	30	27.0	27.5	28.0	29.0	30.5	-11.1	4.1	6.9	9.8	14.5	21.4
WU-M-587-S2	60	53.5	55.0	56.5	58.5	60.5	-22.2	8.0	13.8	19.8	29.3	42.4
WU-M-588-S2	90	80.5	83.0	84.5	87.5	91.0	-33.3	12.1	20.8	29.6	43.8	63.7
LED Line SMD Gen. 4 – L75 W2												
WU-M-589-S2	30	27.0	27.5	28.0	29.0	30.5	-11.1	4.1	6.9	9.8	14.5	21.4
WU-M-590-S2	60	53.5	55.0	56.5	58.5	60.5	-22.2	8.0	13.8	19.8	29.3	42.4
WU-M-591-S2	90	80.5	83.0	84.5	87.5	91.0	-33.3	12.1	20.8	29.6	43.8	63.7
LED Line SMD Gen. 4 – L112 W2												
WU-M-583-S2	48	43.2	44.0	44.8	46.4	48.8	-17.7	6.5	11.0	15.7	23.2	34.2
WU-M-584-S2	96	85.6	88.0	90.4	93.6	96.8	-35.4	12.8	22.0	31.6	46.8	67.8
WU-M-585-S2	144	128.8	132.8	135.2	140.0	145.6	-53.1	19.3	33.2	47.3	70.0	101.9

Voltage and power consumption tolerance: $\pm 10\%$

Use of external LED constant current driver required.

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LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Maximum Ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the module.

Type	Operating current (mA)	Operation temperature range at t_c point		Storage temperature range		Max. allowed repetitive peak current mA
		°C min.	°C max.	°C min.	°C max.	
All types	all	-20	+80	-20	+85	1200

Operating Life

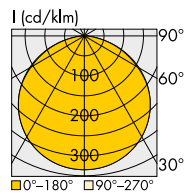
L80/B10

in hours at measured temperature at t_p point

	150 mA and 250 mA			350 mA			500 mA			700 mA		
	40 °C	50 °C	80 °C	40 °C	50 °C	80 °C	40 °C	50 °C	80 °C	40 °C	50 °C	80 °C
WU-M-574, 577, 580, 583, 586, 589	> 54,000	> 54,000	> 54,000	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000
WU-M-575, 578, 581, 584, 587, 590	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000	> 54,000	50,000	45,000
WU-M-576, 579, 582, 585, 588, 591	> 54,000	> 54,000	50,000	> 54,000	> 54,000	50,000	> 54,000	> 54,000	45,000	> 54,000	50,000	40,000

Typical Light Distribution Curve

Data are available in .ldt format for download under www.vossloh-schwabe.com.



Without cover

Light distribution curve for LED Line SMD modules **with covers** see page 12.

Light distribution curve for LED Line SMD modules **with optics** see page 13.

Optical Characteristics

at $t_p = 50 °C$

CRI: $R_a > 80$

Type	Ref. No. Connection		Colour	Correlated colour tem- perature * K	Typ. luminous flux** and typ. efficiency** at										Photo- metric code	
	top (TC)	bottom (BC)			150 mA		250 mA		350 mA		500 mA		700 mA			
					lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W		
LED Line SMD Gen. 4 – L14 W2																
WU-M-580-S2-TC/BC-830	568812	on request	warm white	3000	150	185	245	178	340	173	475	164	645	151	830/349	
WU-M-580-S2-TC/BC-840	568813	568816	neutral white	4000	165	204	265	193	365	186	510	176	695	163	840/349	
WU-M-580-S2-TC/BC-850	568814	on request	neutral white	5000	165	204	265	193	365	186	510	176	695	163	850/349	
WU-M-580-S2-TC/BC-865	568815	on request	cool white	6500	150	185	245	178	340	173	475	164	645	151	865/349	
WU-M-581-S2-TC/BC-830	568817	on request	warm white	3000	305	190	495	180	680	172	950	162	1295	153	830/349	
WU-M-581-S2-TC/BC-840	568818	568821	neutral white	4000	325	202	530	193	730	185	1025	175	1395	165	840/349	
WU-M-581-S2-TC/BC-850	568819	on request	neutral white	5000	325	202	530	193	730	185	1025	175	1395	165	850/349	
WU-M-581-S2-TC/BC-865	568820	on request	cool white	6500	305	190	495	180	680	172	950	162	1295	153	865/349	
WU-M-582-S2-TC/BC-830	568822	on request	warm white	3000	455	188	740	178	1020	172	1425	163	1940	152	830/349	
WU-M-582-S2-TC/BC-840	568823	on request	neutral white	4000	490	203	800	193	1095	185	1535	175	2090	164	840/349	
WU-M-582-S2-TC/BC-850	568824	on request	neutral white	5000	490	203	800	193	1095	185	1535	175	2090	164	850/349	
WU-M-582-S2-TC/BC-865	568825	on request	cool white	6500	455	188	740	178	1020	172	1425	163	1940	152	865/349	

* Colour tolerance: 3 MacAdams | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$

Minimum order quantity (packaging unit): 150 pcs.

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LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Optical Characteristics

at $t_p = 50^\circ\text{C}$ CRI: $R_a > 80$

Type	Ref. No. Connection		Colour	Correlated colour tem- perature* K	Typ. luminous flux** and typ. efficiency **										Photo- metric code
	top (TC)	bottom (BC)			150 mA		250 mA		350 mA		500 mA		700 mA		
					lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	
LED Line SMD Gen. 4 – L28 W2															
WU-M-574-S2-TC/BC-830	568768	on request	warm white	3000	300	185	490	178	680	173	950	164	1290	151	830/349
WU-M-574-S2-TC/BC-840	568769	568772	neutral white	4000	330	204	530	193	730	186	1020	176	1390	163	840/349
WU-M-574-S2-TC/BC-850	568770	on request	neutral white	5000	330	204	530	193	730	186	1020	176	1390	163	850/349
WU-M-574-S2-TC/BC-865	568771	on request	cool white	6500	300	185	490	178	680	173	950	164	1290	151	865/349
WU-M-575-S2-TC/BC-830	568773	568777	warm white	3000	610	190	990	180	1360	172	1900	162	2590	153	830/349
WU-M-575-S2-TC/BC-840	568774	568778	neutral white	4000	650	202	1060	193	1460	185	2050	175	2790	165	840/349
WU-M-575-S2-TC/BC-850	568775	on request	neutral white	5000	650	202	1060	193	1460	185	2050	175	2790	165	850/349
WU-M-575-S2-TC/BC-865	568776	on request	cool white	6500	610	190	990	180	1360	172	1900	162	2590	153	865/349
WU-M-576-S2-TC/BC-830	568784	on request	warm white	3000	910	188	1480	178	2040	172	2850	163	3880	152	830/349
WU-M-576-S2-TC/BC-840	568785	on request	neutral white	4000	980	203	1600	193	2190	185	3070	175	4180	164	840/349
WU-M-576-S2-TC/BC-850	568786	on request	neutral white	5000	980	203	1600	193	2190	185	3070	175	4180	164	850/349
WU-M-576-S2-TC/BC-865	568787	on request	cool white	6500	910	188	1480	178	2040	172	2850	163	3880	152	865/349
LED Line SMD Gen. 4 – L28 W2 – STC (Small Top Connector)															
WU-M-575-S2-STC-830	569414	—	warm white	3000	610	190	990	180	1360	172	1900	162	2590	153	830/349
WU-M-575-S2-STC-840	569415	—	neutral white	4000	650	202	1060	193	1460	185	2050	175	2790	165	840/349
LED Line SMD Gen. 4 – L56 W2															
WU-M-577-S2-TC/BC-830	568788	568792	warm white	3000	600	185	980	178	1360	173	1900	164	2580	151	830/349
WU-M-577-S2-TC/BC-840	568789	568793	neutral white	4000	660	204	1060	193	1460	186	2040	176	2780	163	840/349
WU-M-577-S2-TC/BC-850	568790	on request	neutral white	5000	660	204	1060	193	1460	186	2040	176	2780	163	850/349
WU-M-577-S2-TC/BC-865	568791	on request	cool white	6500	600	185	980	178	1360	173	1900	164	2580	151	865/349
WU-M-578-S2-TC/BC-830	568794	568798	warm white	3000	1220	190	1980	180	2720	172	3800	162	5180	153	830/349
WU-M-578-S2-TC/BC-840	568795	568799	neutral white	4000	1300	202	2120	193	2920	185	4100	175	5580	165	840/349
WU-M-578-S2-TC/BC-850	568796	on request	neutral white	5000	1300	202	2120	193	2920	185	4100	175	5580	165	850/349
WU-M-578-S2-TC/BC-865	568797	on request	cool white	6500	1220	190	1980	180	2720	172	3800	162	5180	153	865/349
WU-M-579-S2-TC/BC-830	568806	568810	warm white	3000	1820	188	2960	178	4080	172	5700	163	7760	152	830/349
WU-M-579-S2-TC/BC-840	568807	568811	neutral white	4000	1960	203	3200	193	4380	185	6140	175	8360	164	840/349
WU-M-579-S2-TC/BC-850	568808	on request	neutral white	5000	1960	203	3200	193	4380	185	6140	175	8360	164	850/349
WU-M-579-S2-TC/BC-865	568809	on request	cool white	6500	1820	188	2960	178	4080	172	5700	163	7760	152	865/349
LED Line SMD Gen. 4 – L56 W2 – STC (Small Top Connector)															
WU-M-578-S2-STC-830	569416	—	warm white	3000	1220	190	1980	180	2720	172	3800	162	5180	153	830/349
WU-M-578-S2-STC-840	569417	—	neutral white	4000	1300	202	2120	193	2920	185	4100	175	5580	165	840/349
LED Line SMD Gen. 4 – L70 W2															
WU-M-586-S2-TC/BC-830	568841	on request	warm white	3000	750	185	1225	178	1700	173	2375	164	3225	151	830/349
WU-M-586-S2-TC/BC-840	568842	on request	neutral white	4000	825	204	1325	193	1825	186	2550	176	3475	163	840/349
WU-M-586-S2-TC/BC-850	568843	on request	neutral white	5000	825	204	1325	193	1825	186	2550	176	3475	163	850/349
WU-M-586-S2-TC/BC-865	568844	on request	cool white	6500	750	185	1225	178	1700	173	2375	164	3225	151	865/349
WU-M-587-S2-TC/BC-830	568845	on request	warm white	3000	1525	190	2475	180	3400	172	4750	162	6475	153	830/349
WU-M-587-S2-TC/BC-840	568846	on request	neutral white	4000	1625	202	2650	193	3650	185	5125	175	6975	165	840/349
WU-M-587-S2-TC/BC-850	568847	on request	neutral white	5000	1625	202	2650	193	3650	185	5125	175	6975	165	850/349
WU-M-587-S2-TC/BC-865	568848	on request	cool white	6500	1525	190	2475	180	3400	172	4750	162	6475	153	865/349
WU-M-588-S2-TC/BC-830	568849	on request	warm white	3000	2275	188	3700	178	5100	172	7125	163	9700	152	830/349
WU-M-588-S2-TC/BC-840	568850	on request	neutral white	4000	2450	203	4000	193	5475	185	7675	175	10450	164	840/349
WU-M-588-S2-TC/BC-850	568851	on request	neutral white	5000	2450	203	4000	193	5475	185	7675	175	10450	164	850/349
WU-M-588-S2-TC/BC-865	568852	on request	cool white	6500	2275	188	3700	178	5100	172	7125	163	9700	152	865/349

* Colour tolerance: 3 MacAdams | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$ **Minimum order quantity (packaging unit): 75 pcs.**

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LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Optical Characteristics

at $t_p = 50^\circ\text{C}$ CRI: $R_a > 80$

Type	Ref. No. Connection		Colour	Correlated colour tem- perature* K	Typ. luminous flux** and typ. efficiency** at										Photo- metric code
	top (TC)	bottom (BC)			150 mA		250 mA		350 mA		500 mA		700 mA		
					lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	
LED Line SMD Gen. 4 – L75 W2															
WU-M-589-S2-TC/BC-830	568853	on request	warm white	3000	750	185	1225	178	1700	173	2375	164	3225	151	830/349
WU-M-589-S2-TC/BC-840	568854	on request	neutral white	4000	825	204	1325	193	1825	186	2550	176	3475	163	840/349
WU-M-589-S2-TC/BC-850	568855	on request	neutral white	5000	825	204	1325	193	1825	186	2550	176	3475	163	850/349
WU-M-589-S2-TC/BC-865	568856	on request	cool white	6500	750	185	1225	178	1700	173	2375	164	3225	151	865/349
WU-M-590-S2-TC/BC-830	568857	on request	warm white	3000	1525	190	2475	180	3400	172	4750	162	6475	153	830/349
WU-M-590-S2-TC/BC-840	568858	on request	neutral white	4000	1625	202	2650	193	3650	185	5125	175	6975	165	840/349
WU-M-590-S2-TC/BC-850	568859	on request	neutral white	5000	1625	202	2650	193	3650	185	5125	175	6975	165	850/349
WU-M-590-S2-TC/BC-865	568860	on request	cool white	6500	1525	190	2475	180	3400	172	4750	162	6475	153	865/349
WU-M-591-S2-TC/BC-830	568861	on request	warm white	3000	2275	188	3700	178	5100	172	7125	163	9700	152	830/349
WU-M-591-S2-TC/BC-840	568862	on request	neutral white	4000	2450	203	4000	193	5475	185	7675	175	10450	164	840/349
WU-M-591-S2-TC/BC-850	568863	on request	neutral white	5000	2450	203	4000	193	5475	185	7675	175	10450	164	850/349
WU-M-591-S2-TC/BC-865	568864	on request	cool white	6500	2275	188	3700	178	5100	172	7125	163	9700	152	865/349
LED Line SMD Gen. 4 – L112 W2															
WU-M-583-S2-TC/BC-830	568826	on request	warm white	3000	1200	185	1960	178	2720	173	3800	164	5160	151	830/349
WU-M-583-S2-TC/BC-840	568827	568830	neutral white	4000	1320	204	2120	193	2920	186	4080	176	5560	163	840/349
WU-M-583-S2-TC/BC-850	568828	on request	neutral white	5000	1319	204	2120	193	2920	186	4080	176	5560	163	850/349
WU-M-583-S2-TC/BC-865	568829	on request	cool white	6500	1200	185	1960	178	2720	173	3800	164	5160	151	865/349
WU-M-584-S2-TC/BC-830	568831	568835	warm white	3000	2440	190	3960	180	5440	172	7600	162	10360	153	830/349
WU-M-584-S2-TC/BC-840	568832	568836	neutral white	4000	2600	202	4240	193	5840	185	8200	175	11160	165	840/349
WU-M-584-S2-TC/BC-850	568833	on request	neutral white	5000	2600	202	4240	193	5840	185	8200	175	11160	165	850/349
WU-M-584-S2-TC/BC-865	568834	on request	cool white	6500	2440	190	3960	180	5440	172	7600	162	10360	153	865/349
WU-M-585-S2-TC/BC-830	568837	on request	warm white	3000	3640	188	5920	178	8160	172	11400	163	15520	152	830/349
WU-M-585-S2-TC/BC-840	568838	on request	neutral white	4000	3920	203	6400	193	8760	185	12280	175	16720	164	840/349
WU-M-585-S2-TC/BC-850	568839	on request	neutral white	5000	3920	203	6400	193	8760	185	12280	175	16720	164	850/349
WU-M-585-S2-TC/BC-865	568840	on request	cool white	6500	3640	188	5920	178	8160	172	11400	163	15520	152	865/349

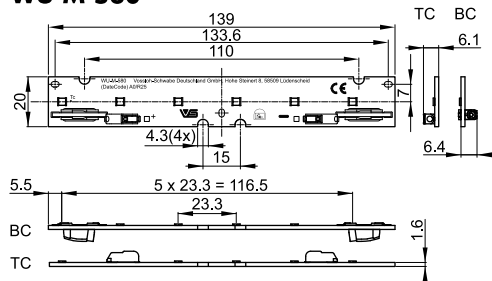
* Colour tolerance: 3 MacAdams | ** Production tolerance of luminous flux and efficiency: $\pm 10\%$ **Minimum order quantity (packaging unit): 75 pcs.**

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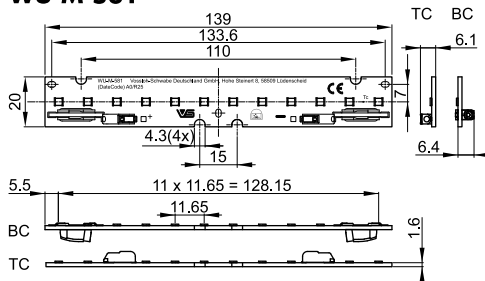
LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Mechanical Dimensions

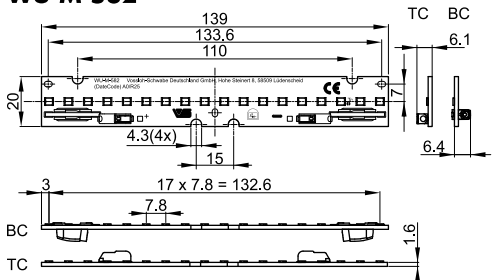
WU-M-580



WU-M-581

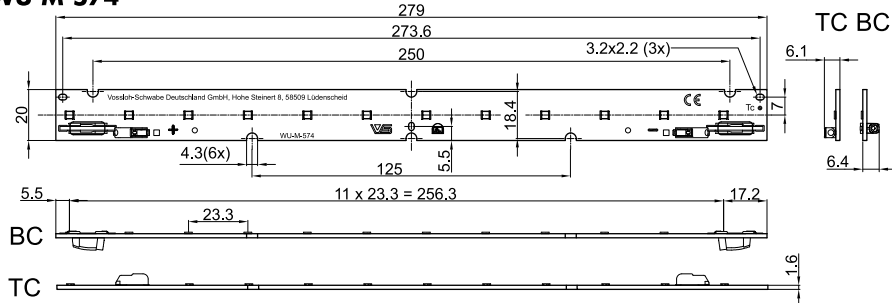


WU-M-582

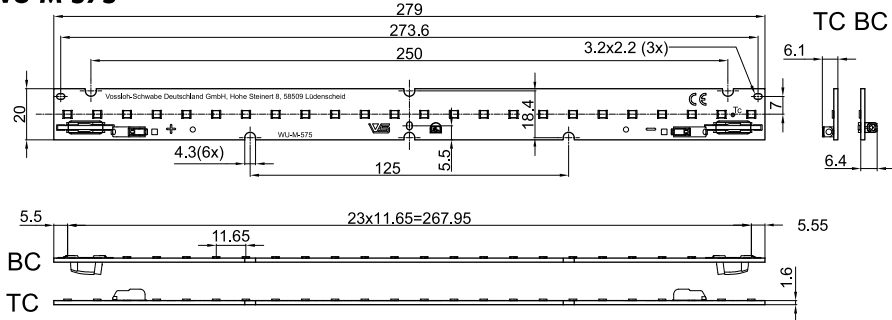


TC = Top Connection
BC = Bottom Connection
STC = Small Top Connection

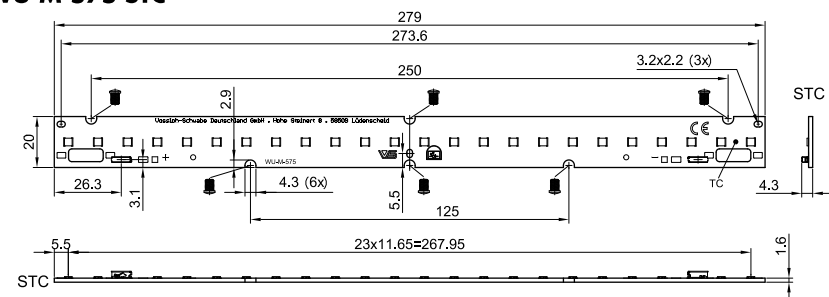
WU-M-574



WU-M-575



WU-M-575 STC

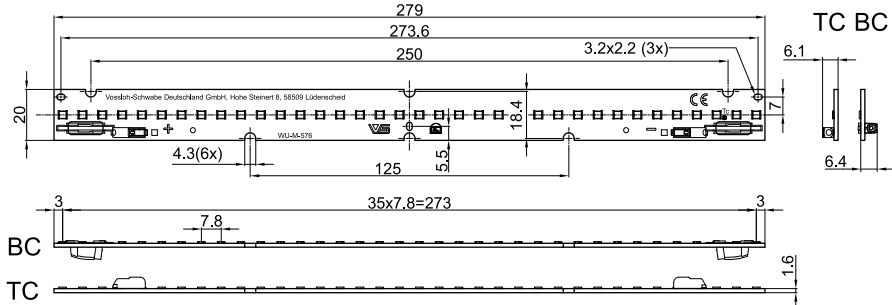


The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Mechanical Dimensions

WU-M-576

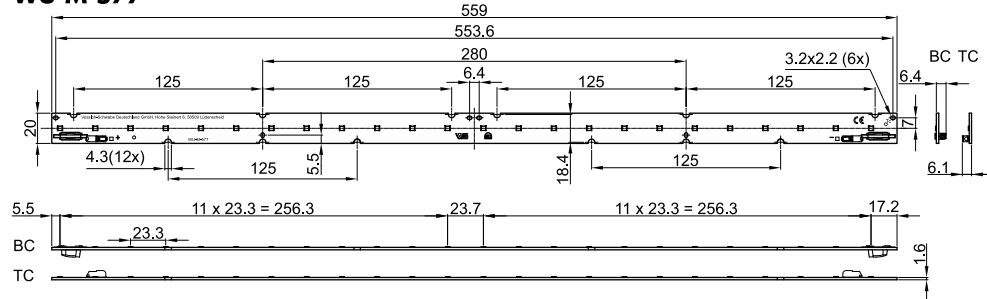


TC = Top Connection

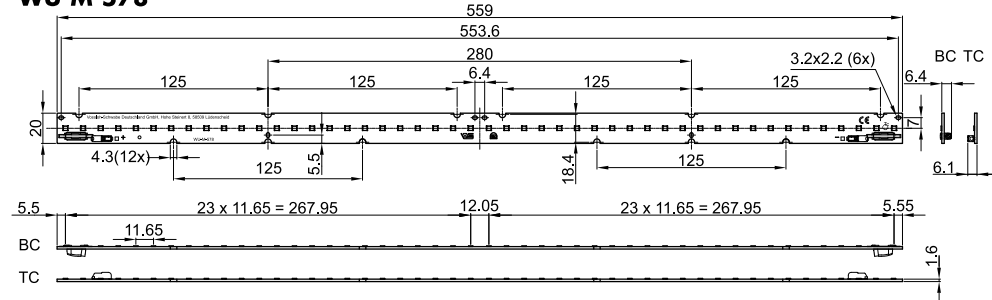
BC = Bottom Connection

STC = Small Top Connection

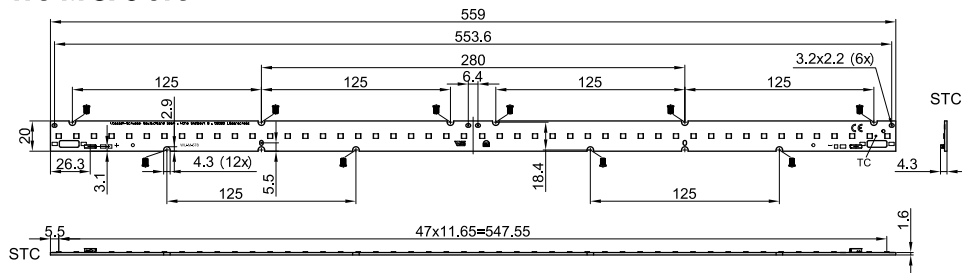
WU-M-577



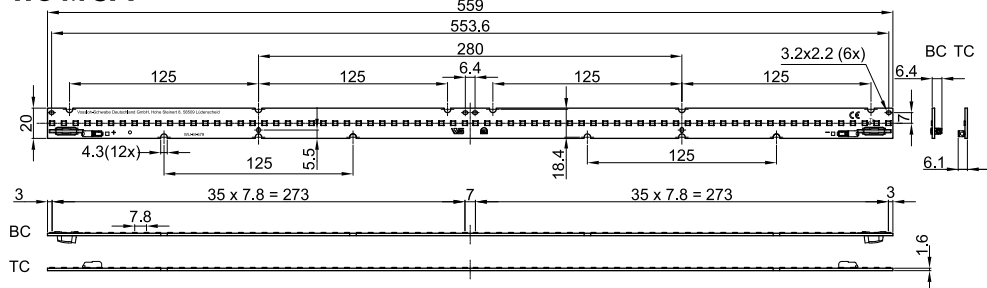
WU-M-578



WU-M-578 STC



WU-M-579

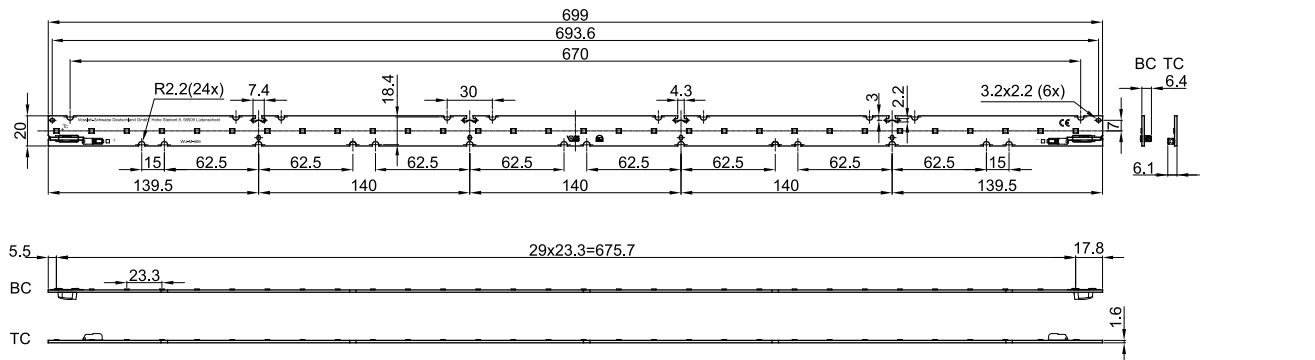


The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

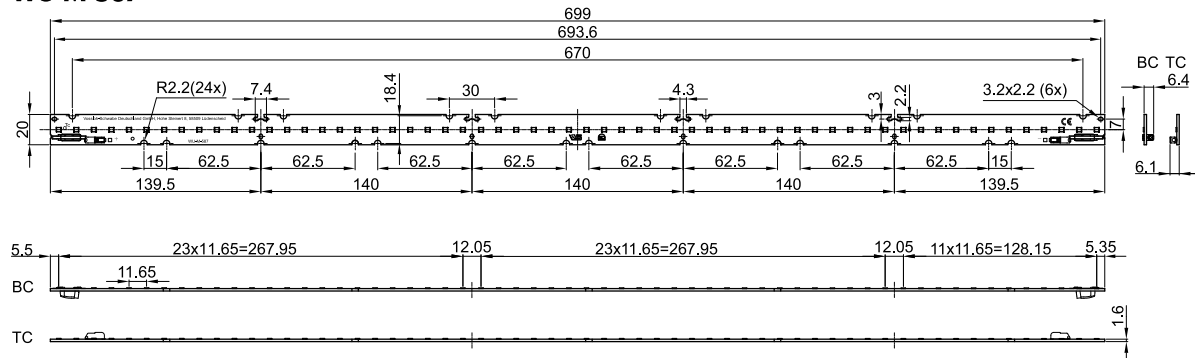
LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Mechanical Dimensions

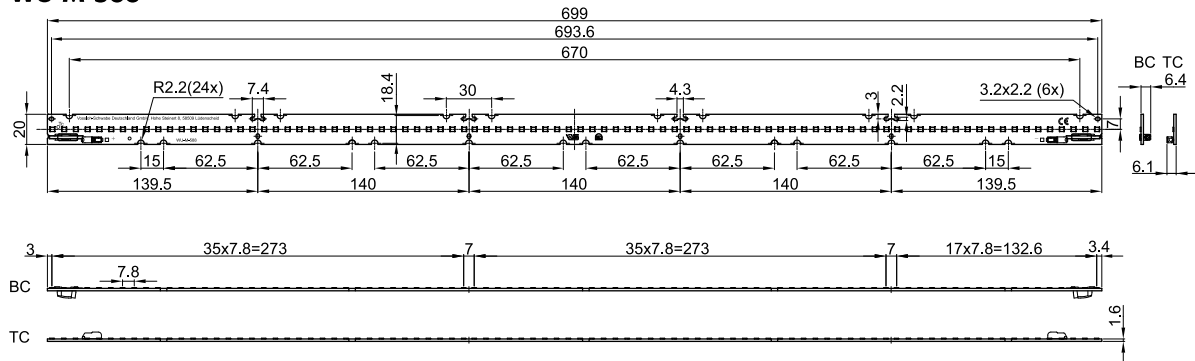
WU-M-586



WU-M-587



WU-M-588



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

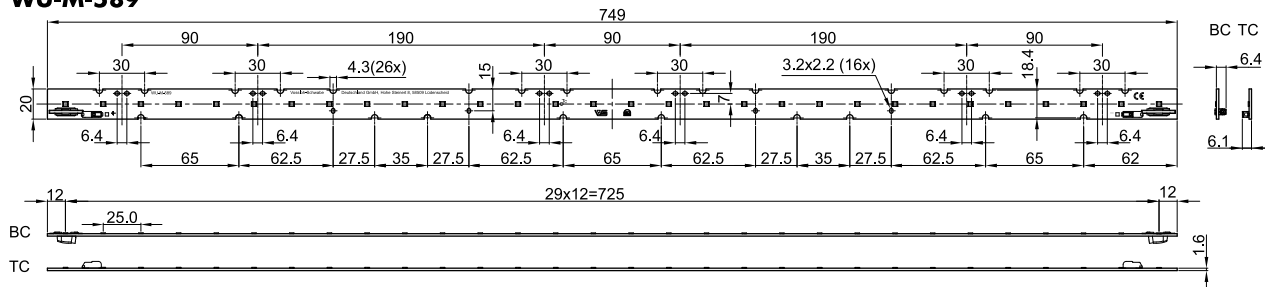
LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Mechanical Dimensions

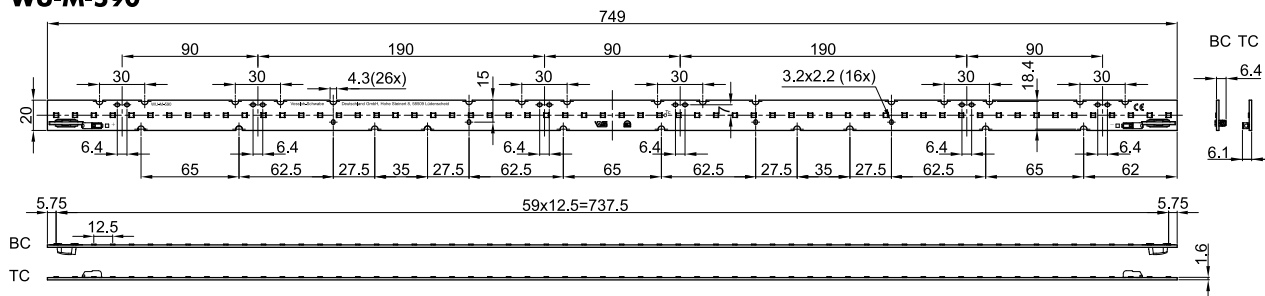
TC = Top Connection

BC = Bottom Connection

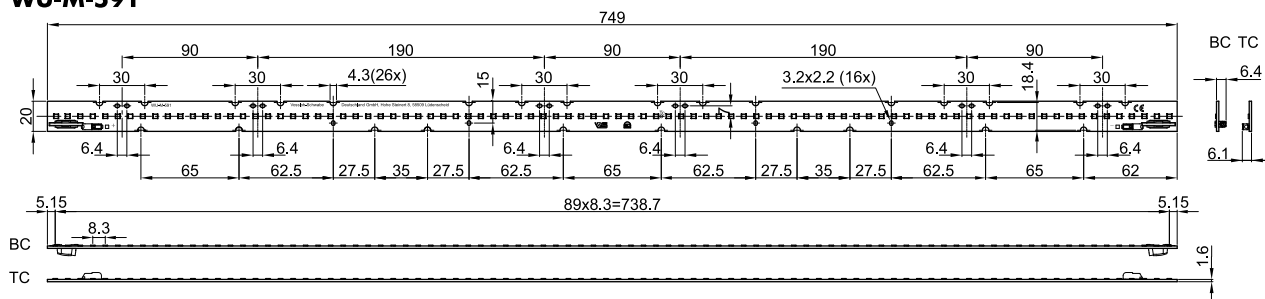
WU-M-589



WU-M-590



WU-M-591



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

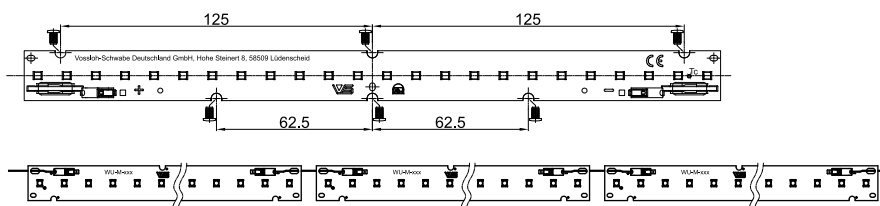
TC = Top Connection
BC = Bottom Connection

10

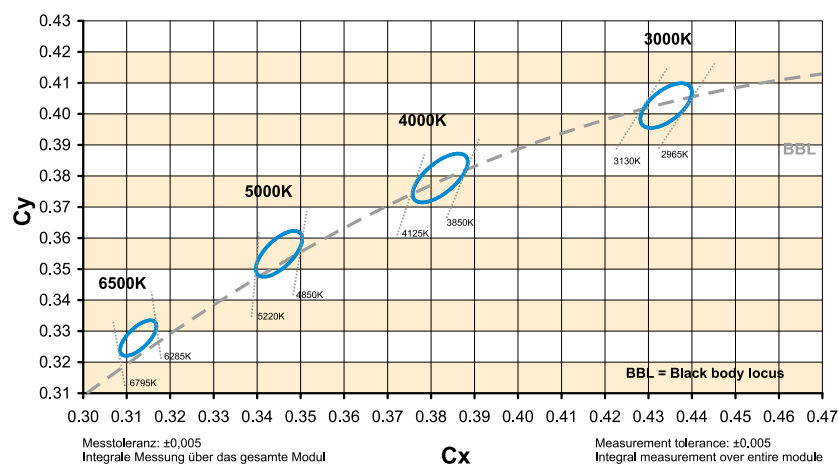
LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Connection Example

- The number of modules that can be connected in series depends on the available output voltage of the LED driver.
- The clearance and creepage distances are designed for working voltages up to 350 V DC (basic insulation) and 185 V DC (reinforced insulation).
- In case of assembly of the LED modules in profiles (e.g. aluminium) where the profile touches the top edge of the PCB the clearance and creepage distances are reduced to 175 V DC (basic insulation) and 50 V DC (reinforced insulation).
- Max. diameter of screw head (M4): Ø 8 mm
- Only the marked holes  are fixing holes for screws M4. Please do not use other holes for fixation!



Bins



Fixing Clip

For fastening LED PCBs to luminaire sheets without needing screws

PCB hole dia.: 4.3–4.5 mm

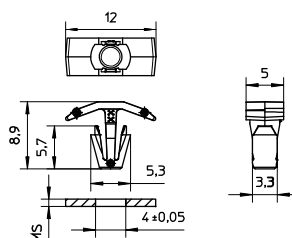
Vibration resistant version

Material: PC, white (UL-94 V2)

Weight: 0.2 g, Packaging unit: 1000 pcs. (.11 = 10,000 pcs.)

Type	Ref. No.	For luminaire sheet thickness (MS) mm
98050	562870	0.5–1.0*

* PCB thickness: 1.6 mm



Linear LED Constant Current Drivers

Please visit our homepage for details for suitable

LED constant current drivers: www.vossloh-schwabe.com

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LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Cover W2 for clip fixing or tape fixing

A semi-transparent or a diffuse cover is available for the modules LED Line SMD W2 which protects the SMD board. The cover reduces glare and makes a homogeneous light distribution.

Easy assembly by clip fixing of the cover under the fixing screws of the SMD board or by tape fixing.

Technical Notes for Cover

Material: PMMA

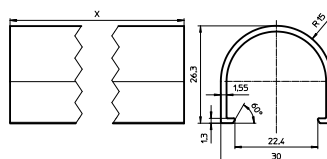
High transmission:

92% semi-transparent

84% diffuse

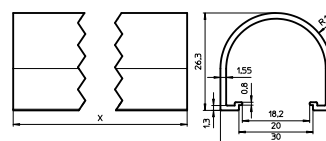
For clip fixing

Recommended diameter of fixing screw head: 7 mm



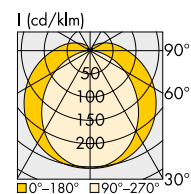
For tape fixing

No screws for PCB and cover fixing needed

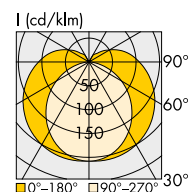


Type	Ref. No. for clip fixing	Type	Ref. No. for tape fixing	Length X mm	Version	Efficiency %	Weight g	Packaging unit pcs.
89830	568591	89800	562549	597	semi-transparent	92	81.8	240
89831	568593	89801	562551	1200	semi-transparent	92	164.4	192
89832	568595	89802	562553	1500	semi-transparent	92	205.5	192
89833	568597	89803	562555	1800	semi-transparent	92	246.6	192
89834	568865	—	on request	3000	semi-transparent	92	410	192
89830	568592	89800	562550	597	diffuse	84	81.8	240
89831	568594	89801	562552	1200	diffuse	84	164.4	192
89832	568596	89802	562554	1500	diffuse	84	205.5	192
89833	568598	89803	562556	1800	diffuse	84	246.6	192
89834	568866	—	on request	3000	diffuse	84	410	192

Length tolerance: 597 mm ± 1 mm (ends finished), 1200 / 1500 / 1800 / 3000 mm + 10 mm (ends raw)



With semi-transparent cover



With diffuse cover

End caps for cover for clip fixing

End caps with or without wire hole for push-fit into the cover

Material: PC, transparent

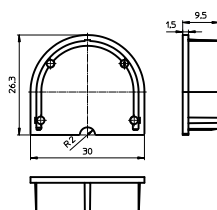
Weight: 2 g, Packaging unit: 250 pcs.

Type: 898

Ref. No.: 562500 end cap with wire hole

Ref. No.: 562499 end cap without wire hole

End cap with wire hole



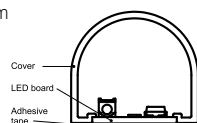
Preassembled module SMD board including W2 adhesive cover

The cover and PCB are fixed together with double-side adhesive assembled.

No screws for PCB and cover fixing needed!

Length: assembled 597 mm

Packaging unit: 242 pcs.



Type	Ref. No.	Cover	SMD board
89800	on request	semi-transparent	on request
89800	on request	diffus	on request

With W2 SMD boards (colour temperature and lengths) on request

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

W2 Optics

For LED Line SMD Gen. 4 – L28/56 W2

Technical Notes

Highly efficient of up to 93%

Constant Light Colour (CLC): very low colour temperature deviations over beam angle

Extended Luminous Area (ELA):

light emission over the entire surface of the optics

Material: PMMA, clear or translucent (TL)

Max. allowed temperature: 80 °C

Dimensions (LxWxH): 559x43x11.6 mm

Optics can be stringed together for module chains

Single lens version for WU-M-574/575/577/578 with bottom connection (BC) or small top connection (STC)

Tunnel lens version for WU-M-574/575/576/577/578/579 with bottom connection (BC) or small top connection (STC)

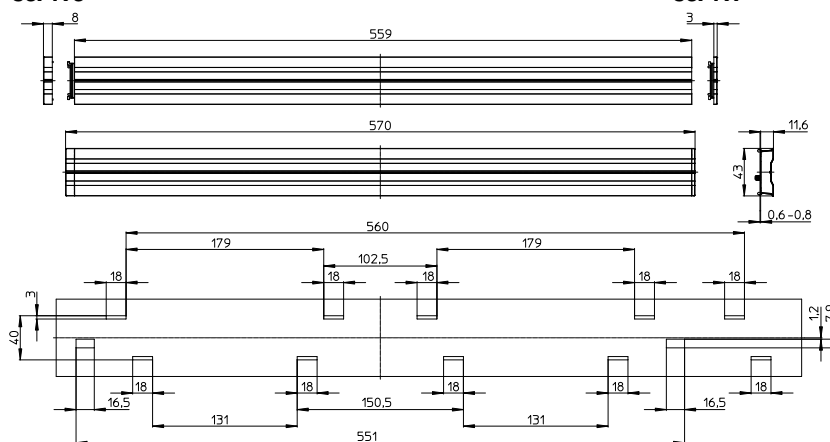
Clip fixation for metal sheets with

wall thickness of 0.6–0.8 mm or aluminium profiles



567196

567197



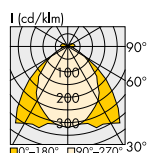
Light distribution	Optics type	Ref. No.	Weight g
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Single lens

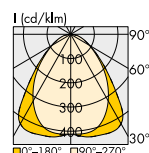
Extra Wide 110°	97005	568236	124
Wide 90°	97000	568075	115
Wide 90° TL	97000	568412	115
Medium 60°	97003	568238	107
Narrow 30°	97002	568239	104
Retail SYM 1	97001	568240	108
Retail SYM 2	97001	568413	108
Retail ASYM	97004	568237	104

Tunnel lens

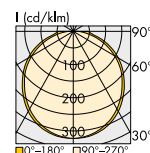
Extra Wide 110°	97105	568248	130
Wide 90°	97100	568243	118
Medium 60°	97103	568246	116
Narrow 30°	97102	568245	114
Retail SYM 1	97101	568244	118
Retail ASYM	97104	568247	114



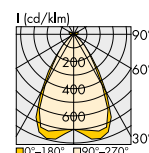
Single lens – 110° *



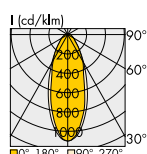
Single lens – 90°



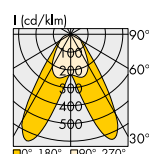
Single lens – 90° TL



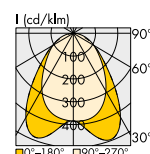
Single lens – 60°



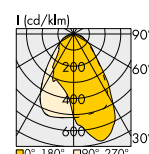
Single lens – 30°



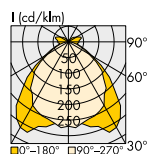
Single lens – Retail SYM 1



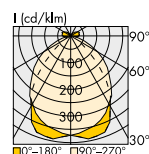
Single lens – Retail SYM 2



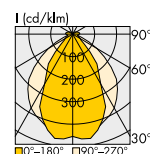
Single lens – Retail ASYM



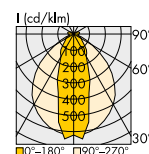
Tunnel lens – 110° *



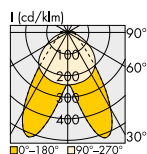
Tunnel lens – 90° *



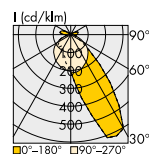
Tunnel lens – 60° *



Tunnel lens – 30° *



Tunnel lens – Retail SYM 1 *



Tunnel lens – Retail ASYM *

* Light distribution curves are preliminary, they are based on simulation

End Caps

Lateral attachment on the optics

(on the side of the groove or tongue)

Material: PC, clear or translucent (TL)

End cap type	For optics type	Ref. No.	Weight g
Tongue side	970	567196	1.85
Groove side	970	567197	1.45
Tongue side TL	970	568601	1.85
Groove side TL	970	568602	1.45

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LED Line SMD Gen. 4 – L14/28/56/70/75/112 W2

Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The LED modules are designed for operation within a casing or luminaire. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advice must be observed; non-observance can result in the destruction of the LED assembly modules, fire and/or other hazards.

- Consider safety regulations acc. EN 60598 in the luminair design, especially when the operating LED driver is not galvanic isolated.
 - In mode of operation regard to sufficient isolation.
 - Live parts must not be touched in operation mode.
- ESD (electrostatic discharge) protection measures must be observed when handling and installing the LED modules. See VS's application notes on ESD protection.
- Adequate anti-static electricity measures, including the use of conductive shoes, ionizers, work bench grounding, wrist straps, flooring and stools could be used.
- LED assembly modules must not be subjected to any undue mechanical stress, e. g.:
 - do not treat as bulk cargo
 - avoid shear and compressive forces during handling and installation
 - do not damage circuit paths
 - avoid any pressure on the light emitting surface
- Safe operation only possible by the use of external constant current sources (I_{max} , see table "Electrical Characteristics").
- Operation only with power supply units that feature the following protection:
 - Short-circuit protection
 - Overload protection
 - Overheating protection
- The module can be fixed with M4 screws. Fixation only with flat or cylinder head screws (M4) (no countersunk screws)
Max. torque: 1.2 Nm (M4)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- For interconnection the LED modules is equipped with push-in terminals.
- Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed the permitted touchable value.
- Measurement tolerances:
 - luminous flux: $\pm 7\%$
 - voltage: $\pm 3\%$
 - CRI: ± 1
- The following points must be observed when connecting LED modules in parallel:
 - All LED strings that are wired in parallel must contain the same number of LEDs (symmetrical loading).
 - Owing to differing forward biases, there can be a difference of up to 10% in brightness between modules connected in parallel.



- To ensure problem-free operation, the specified maximum temperature at the t_p point (see "Operating Life") must be observed (and measured in accordance with EN 60598-1). To satisfy this point, it may be necessary to put measures in place to ensure any heat is dissipated from the PCB to the environment.
- In the event of outdoor applications or applications in damp locations, care must be taken to protect LED assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. LED assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Due to the manufacturing process, the PCBs of the LED assembly modules can have sharp edges and corners. Care must therefore be taken during handling and installation to avoid injury.
- For optimal load of used constant current driver the modules can only be connected in series. The quantity of LED modules is limited by the sum of forward voltage and the capacity of used constant current driver. Safety regulations acc. to EN 60598 has to be observed if the sum of forward voltage exceed the permitted touchable value.
- Operating LED modules in the presence of certain chemical substances or in chemically enriched (aggressive) environments can impair module functionality or even cause total module failure. Detailed information can be found in our "Chemical Incompatibility" PDF on our website www.vossloh-schwabe.com
- The photobiological safety of the LED modules must be classified into risk groups in accordance with EN 62471: 2008. Rating in accordance with IEC / TR 62778: risk group 1

CCT K	Max. operating current for risk group 1 mA	E threshold for higher operating currents to be risk group 1 lx
2700-5000	700	770
6500	550	770

Applied Standards

EN 62031

LED modules for general lighting – Safety specifications



EN 62471

Photobiological safety of lamps and lamp systems

Product Guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

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